

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A light-emitting device, ~~in particular a backlight device, of the type comprising~~

a transparent substrate having a front surface and a rear surface, one of said surfaces identifying a plane of the substrate,

~~there being associated to the rear surface means for generating an electromagnetic radiation that is able to comprising a first electrode, a second electrode and an electroluminescent material, said means being oriented with respect to said rear surface such that said electromagnetic radiation pass passes through the substrate and to come out of the front surface thereof, and~~

characterized in that it comprises a layer of porous alumina,
wherein the first and the second electrodes are both in electrical contact with the electroluminescent material, and the layer of porous alumina is structured which operates so as to inhibit propagation of said electromagnetic radiation in the directions parallel to the plane of the substrate, thus improving so as to improve the efficiency of extraction of light from the substrate and increasing the increases directionality of the emitted light.

2. (currently amended): The device according to Claim 420, wherein the layer of alumina is obtained on said front surface and said first layer is on said rear surface.

3-4. (canceled).

5. (currently amended): The device according to Claim 320, characterized in thatwherein

- the first layer is directly in contact with said rear surface,
- said electroluminescent material is on said first layer; and
- said second layer is on the electroluminescent material.

6. (currently amended): The device according to Claim 320, characterized in thatwherein:

- the layer of alumina is obtained on the said first layer;
- on the ensemble formed by the layer of alumina and the first layer, there is set at least one layer of electroluminescent material; and
- the layer of alumina is structured in such a way that the electroluminescent material fills the pores of the alumina so as to be in electrical contact both with the first layer and with the second layer.

7. (currently amended): The device according to Claim 320, wherein:

- the layer of alumina is obtained on said rear surface;

- on the layer of alumina there is deposited the first layer so as to coat the internal surfaces of the pores of the alumina; and

- on the ensemble formed by the layer of alumina and the first layer, there is set at least one layer of electroluminescent material, part of which fills the pores of the alumina.

8. (currently amended): The device according to Claim 320, wherein the first layer is a layer of ITO or else a layer of percolated or mesoporous material.

9. (currently amended): The device according to Claim 31, wherein the electroluminescent material is selected in from the group made up consisting of: organic electroluminescent materials, inorganic and organic semiconductors, metallic nanocrystals, and luminescent rare earths.

10. (currently amended): The device according to Claim 422, wherein said generating means comprise a layer of photoluminescent phosphors designed for converting UV radiation into visible light.

11. (currently amended): The device according to Claim 422, wherein the transparent substrate is constituted by the an encapsulating glass of a source of a fluorescent lamp bulb.

12. (currently amended): The device according to Claim 1, wherein the transparent substrate is ~~constituted by~~ the front glass of a cathode-ray tube (CRT) or of a display of a flat-panel type (FPD).

13-17. (canceled).

18. (currently amended): ~~Use of anodized porous alumina as two-dimensional photonic crystal in A light-emitting devices and systems, for example backlight devices and systems, having a two-dimensional photonic crystal, a transparent plate with a front surface and a rear surface, as well as means for generating light which are oriented with respect to said rear surface such that said light passes through the plate to come out of the front surface thereof, in order to inhibit propagation of the light in the directions parallel to a the plane of the a transparent plate identified by one of said surfaces, thus so as to improving the efficiency of extraction of light from the plate and increasing the directionality of the emitted light,~~
wherein the two-dimensional photonic crystal comprises anodized porous alumina.

19. (currently amended): ~~Use of anodized porous alumina as two-dimensional photonic crystal in A fluorescent lamp bulbs for lighting having a two-dimensional photonic crystal, a transparent plate with a front surface and a rear surface, as well as means for generating light which are oriented with respect to said rear surface such that said light passes through the~~

plate to come out of the front surface thereof, in order to inhibit propagation of the emitted light in the directions parallel to ~~the a~~ plane of ~~a~~ the transparent plate identified by one of said surfaces, thus so as to improving the efficiency of extraction of light from the plate and increasing the directionality of the emitted light emitted,

wherein the two-dimensional photonic crystal comprises anodized porous alumina.

20. (new): The device according to Claim 1, wherein said first electrode comprises a first layer of a transparent material and said second electrode comprises a second layer of a transparent material, at least one layer of the electroluminescent material being set between said first and second layers.

21. (new): The device according to Claim 1, wherein at least one charge-transporting layer is provided between the electroluminescent material and a respective electrode.

22. (new): A light-emitting device, in particular a backlight device, comprising
- a transparent substrate having a front surface and a rear surface, one of said surfaces identifying a plane of the substrate,
- means for generating an electromagnetic radiation, and
- a layer of porous alumina,
wherein

- said means are associated to said rear surface and oriented with respect to said rear surface such that said electromagnetic radiation passes through the substrate to come out of the front surface thereof, and

- said layer of porous alumina is on said front surface and is structured to inhibit propagation of said electromagnetic radiation in directions parallel to the plane of the substrate, so as to improve efficiency of extraction of light from the substrate and increase directionality of the emitted light.